Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

grades: 29.3%), and diarrhea (all grades: 26.8%). The frequency of drug-induced pneumonitis was of all grades: 19.5% and of G3 or higher: 2.4%. Thirty-eight cases were able to measure the trough concentrations in plasma a week after the start of treatment. The median concentration of osimertinib was 227 ng/ml and of AZ5104 was 16.5 ng/ml. The mean trough level of osimertinib in the anorexia-occurred group was significantly higher than that in the non-occurred group (385.0 ng/ml vs 231.5 ng/ml, P=0.009). Pneumonitis was not related to plasma level of the drug. In addition, the patients were divided into the quartile groups by the osimertinib trough levels (Q1, Q2, Q3, Q4 in ascending order of value), and the PFS of Q1, Q2+Q3 and Q4 were compared. The PFS of the Q2 + Q3 group was the longest compared to the Q1 group and the Q4 group. The Q1 group might be received undertreatment of osimertinib and the Q4 group tended to have more cases of discontinuation due to adverse events. Entirely, osimertinib levels were more associated with efficacies than metabolites of osimertinib. **Conclusion:** It was shown that trough concentration measurement on the 1 week after the start of osimertinib may be able to predict some gastrointestinal toxicity and efficacy. An appropriate plasma level of osimertinib may avoid some adverse events and may induce long PFS. Further analysis is required.
Keywords: osimertinib, EGFR, plasma concentration

FP06 MANAGEMENT OF LUNG CANCER IN THE ERA OF COVID-19

FP06.01
Unexpected Aggressive Histological Component in Subsolid Lung Adenocarcinoma: Priority for Resection Without Delay

M. Yotsukura,[1] K. Nakagawa,[1] Y. Yoshida,[1] H. Watanabe,[2] M. Kusumoto,[2] Y. Yatabe,[3] S. Watanabe[1] *[1]Department of Thoracic Surgery, National Cancer Center Hospital, Tokyo/JP, [2]Department of Diagnostic Radiology, National Cancer Center Hospital, Tokyo/JP, [3]Department of Diagnostic Pathology, National Cancer Center Hospital, Tokyo/JP*

Introduction: Ground glass opacity (GGO)-containing small-sized adenocarcinoma of the lung can generally be expected to have a fair prognosis after resection. However, some of such tumors might contain a histological aggressive component that is related to poor prognosis. This study aimed to identify the predictors for the aggressive histological component in GGO-containing small-sized lung adenocarcinoma to screen the patients who should undergo resection without delay in the era of COVID-19. **Methods:** Of the 2,350 patients who underwent pulmonary resection for lung cancer at our institute between 2017 and 2020, we collected data of 501 patients with GGO-containing lung adenocarcinoma with a total diameter of $\leq$ 2 cm. Multivariable analysis was conducted to identify predictors for the presence of histological aggressive components. **Results:** Using a historical cohort, lymphovascular invasion and predominant micropapillary or solid patterns were identified as histological aggressive components that were related to poor prognosis in stage IA adenocarcinoma. Of the included 501 cases, 36 (7.2%) had at least one histological aggressive component. A multivariable analysis showed that consolidation/tumor ratio on high-resolution computed tomography $>$ 0.5 (odds ratio [OR], 6.08; $p <$ 0.01), maximum standardized uptake value (SUVmax) on positron emission tomography $\geq$ 1.5 (OR, 3.56; $p < 0.01$), and smoking index $>$ 20 pack-years (OR, 2.69; $p = 0.03$) were predictors for the presence of histological aggressive component, with the sensitivity of 94.4%. **Conclusion:** Consolidation/tumor ratio $>$ 0.5, SUVmax $\geq$ 1.5, and smoking history $>$ 20 pack-years were predictors for the presence of a histological aggressive component in GGO-containing small-sized adenocarcinoma. These predictors may be useful for screening patients with a potentially high risk for poor prognosis and for setting priorities for resection in the era of COVID-19.
Keywords: ground-glass opacity, consolidation/tumor ratio, prognosis

FP06.02
The Impact of The COVID-19 Pandemic on New Diagnoses of Lung Cancer: A 3-Year Review of an Irish Cancer Centre

H. Carroll,[1] M. Doyle,[1] D. Eaton,[2] K. Redmond,[2] B. Mcgovern,[3] D. O'Callaghan,[4] J. Sui[1] *[1]Medical Oncology, Mater Misericordiae University Hospital, Dublin/IE, [2]Thoracic Surgery, Mater Misericordiae University Hospital, Dublin/IE, [3]Pathology, Mater Misericordiae University Hospital, Dublin/IE, [4]Respiratory Medicine, Mater Misericordiae University Hospital, Dublin/IE*

Introduction: The onset of the COVID-19 pandemic in March 2020 led to a disruption in cancer services worldwide. In Ireland, lung cancer is the fourth most common malignancy and the leading cause of cancer deaths. Disease stage at diagnosis and performance status are powerful prognostic factors for survival in both non-small cell (NSCLC) and small cell lung cancer (SCLC) subtypes. We review cases of lung cancer diagnosed over a consecutive three-year period to better understand the impact of the COVID-19 pandemic on this cohort of patients. **Methods:** We conducted a retrospective analysis of new cases of primary lung cancer referred to the lung cancer multidisciplinary meeting (MDM) at a tertiary referral cancer centre in Dublin, Ireland, between December 2017 and November 2020. Histological subtypes included for analysis: NSCLC (adenocarcinoma, squamous cell carcinoma, and carcinoma not otherwise specified) and SCLC. Exclusion criteria: patients without a histologically confirmed diagnosis of primary lung cancer, other histological subtypes, and patients referred for systemic anti-cancer treatment and follow-up at an external institution. We reviewed case numbers, patient demographics, disease stage at presentation, performance status at the time of diagnosis, and survival. **Results:** A total of 491 cases of lung cancer diagnosed between December ('Dec') 2017 and November ('Nov') 2020 were included for analysis. 162 cases were diagnosed between Dec 2017 and Nov 2018, 181 cases between Dec 2018 and Nov 2019, and 148 cases between Dec 2019 and Nov 2020. We compared patients diagnosed between Dec 2017 and Nov 2019 to those diagnosed between Dec 2019 and Nov 2020 to assess the impact of the pandemic: Gender: 61% vs 45% male (p=0.0013). Median age: 69 vs 67 years (p=0.26). NSCLC stage I disease 31.6% vs 22.3% (p=0.03); stage IV disease 34.4% vs 46.3% (p=0.01). SCLC extensive stage 67.3% vs 74.1% (p=0.55). Metastatic disease: 39.1% vs 51.4% (p=0.03). Performance status $\geq$ 2: 27.2% vs 24.4% (p=0.52). Median overall survival (mOS): 14 months vs not reached. **Conclusion:** Between December 2019 and November 2020, fewer primary lung cancer cases were diagnosed at our centre compared to the preceding two years. Of these patients, a higher number presented with metastatic disease. There was no statistically significant difference in the performance status of patients at presentation. We hypothesize that the increase in advanced stage presentations seen during the pandemic may be accounted for by the disruption to cancer services, delayed presentations due to patients following public health advice and self-isolating in response to new respiratory symptoms, and fewer patients presenting to healthcare providers due to the fear of contracting COVID-19.
Keywords: lung cancer, pandemic, covid-19

FP06.03
COVID-19: Does Thoracic Surgery Increase Mortality Rates during the Pandemic?

M.T. Tsukazan,[1] L. Bittencourt Hinrichsen,[1] G.F. Schneider,[2] P.A. Schulze,[3] M. Iglesias,[4] A. Vigo,[5] R. Paulino,[6] T. Menegaz,[6] B. Mana,[6] K. Klein,[6] J. Rios,[6] A. Schneider,[4] J. Figueiredo Pinto[1] *[1]Medical School, Pontifical Catholic University of Rio Grande Do Sul, Pucrs, -/BR, [2]Pontifical Catholic University of Rio Grande Do Sul, Pucrs, -/BR, [3]School of Medicine, Pontifical Catholic University of Rio Grande Do*

Sul, Porto Alegre/BR, [4]Medical School, Pontifical Catholic University of Rio Grande Do Sul, Pucrs, Porto Alegre/BR, [5]Universidade Federal Do Rio Grande Do Sul - Ufrgs, Porto Alegre/BR, [6]Thoracic Surgery of Hospital São Lucas Da Pucrs, Porto Alegre/BR

Introduction: In March 2020, the Sars-Cov-2 pandemic began, and, with that, tertiary services postponed elective thoracic surgeries, believing that a post-operative thoracic surgery patient would have increased mortality for COVID-19. Accordingly, the risk of disease progression was brought to attention by medical societies since lung resections are surgeries often related to the treatment of oncological diseases. This study aims to analyze the outcome of patients that had thoracic surgery during the pandemic and evaluate the ones diagnosed with COVID-19 after lung pulmonary resection (LR). **Methods:** Data from all patients who underwent LR (lobectomy, segmentectomy, and wedge resection) by the Thoracic Surgery Service at PUCRS's Sao Lucas Hospital in Brazil during 2020 were retrospectively collected in March 2021. Information regarding etiology of the thoracic disease, type of surgical access, post-operative COVID-19 status, and evolution of the viral condition underwent descriptive analysis. **Results:** Sixty patients were submitted to LR from January to December 2020, with 3 patients going through two surgeries (two primaries lung cancer), resulting in 63 procedures. Of the 60 patients, 33 patients (55%) underwent surgery for malignant lung cancer, 25 (41.8%) for inflammatory or infectious diseases, and 2 (3.3%) for benign lung cancer. Of the 63 procedures, 27 (42.9%) were video-assisted thoracoscopic surgery (VATS), with 18 (28.6%) for early-stage cancer. During postoperative follow-up, 7 (11.7%) patients were diagnosed with COVID-19. It was established a postoperative period as up to 15 days after surgery. Four patients were infected by the new coronavirus, considering that definition. Of the 7 patients with COVID-19, two required hospitalization and died, one had worsened from associated comorbidities, and the other was diagnosed with COVID-19 8 months after surgery. The average age of patients infected in the postoperative period was 66.14 years, and the mortality rate due to COVID-19 after thoracic surgery was 3.3%. Of the 53 (88.3%) patients who were not positive for COVID-19, 2 (3.3%) died. **Conclusion:** Our data show that a small percentage of patients operated on in 2020 (11.7%) were contaminated by Sars-CoV-2 at some point after surgery, 2 of which being contaminated months after hospitalization. Given the average age of these patients and their comorbidities, it is known that they are at a higher risk for COVID-19 complications. According to the Rio Grande do Sul's Department of Health, the mortality rate for the novel coronavirus in the 60-69 age group is 5.97%. This study shows that thoracic surgery can be safely performed maintaining similar rates of contamination and mortality for the new coronavirus. Besides, it is known that choosing to postpone surgical treatment in patients with lung cancer may have a direct impact on prognosis and survival rates. **Keywords:** Surgery, mortality, lung cancer

FP07 MESOTHELIOMA, THYMOMA AND OTHER THORACIC MALIGNANCIES

FP07.01
The MDM2/p53 Axis is a Therapeutic Vulnerability in Malignant Pleural Mesothelioma

L. Heasley,[1] T. Hinz,[1] J. Pacheco,[2] V. Tirunagaru,[3] R. Doebele[3]
[1]Craniofacial Biology, University of Colorado Anschutz Medical Campus, Aurora/CO/US, [2]Medical Oncology, University of Colorado Anschutz Medical Campus, Aurora/CO/US, [3]Rain Therapeutics, Inc., Newark/CA/US

Introduction: Malignant pleural mesothelioma (MPM) is a rare cancer that afflicts ~3,200 new patients per year in the US and 25,576 deaths were reported worldwide in 2018. Currently there are no targeted therapies approved for MPM. Approximately 80-85% of MPM bear wild-type (WT) *TP53*, a key tumor suppressor subject to ubiquitylation and degradation via the E3 ligase, MDM2. Furthermore, p14ARF, a critical negative regulator of MDM2 encoded by the *CDKN2A* gene, is lost in up to 80% of MPM via deletion or methylation of *CDKN2A*. MDM2 inhibitors have been developed that result in increased p53 function to yield growth inhibition or apoptosis of tumor cells. The fact that the majority of MPM tumors bear WT *TP53* and p14ARF/*CDKN2A* loss suggests a potential vulnerability that may be amenable to precision oncology strategies utilizing MDM2 inhibitors. **Methods:** A panel of six human mesothelioma cell lines (H28, H226, H290, H2052, H2452, MSTO211H) with defined *TP53* and *MDM2* status were submitted to in vitro clonogenic growth assays and immunoblot analyses with MDM2 inhibitors RAIN-32 (milademetan) and KRT-232 (AMG-232). Two MDM2 inhibitor-sensitive MPM cell lines (MSTO211H and H226) were propagated as flank xenografts in nu/nu mice and sensitivity to oral dosing with RAIN-32 was determined. **Results:**

Table.

Cell Line	H28	H226	H290	H2052	H2452	MSTO211H
RAIN-32 IC_{50}, nM	32.0	25.0	19.1	9.5	7,448.0	5.5
KRT-232 IC_{50}, nM	54.8	103.0	102.7	75.3	6,333.0	24.4
TP53 status	WT	WT	WT	WT	WT, lo mRNA	WT
TP53 mRNA, rel. exp.	0.839	1.047	1.100	0.554	0.000	0.326
CDKN2A status	Del	-	-	del	del	del
CDKN2A mRNA, rel. exp.	0.0000	0.0033	0.0000	0.0000	0.0002	0.0047
MDM2 mRNA, rel. exp.	0.57	0.48	0.96	0.94	0.10	0.51

The IC_{50} values for RAIN-32 and KRT-232 ranged from 6 - 32 nM and 24 -103 nM, respectively, in the 5 MPM cell lines bearing WT *TP53*, but was greater than 5 mM in H2452 cells which lack *TP53* mRNA expression (see Table). Notably, the status of *CDKN2A* encoding the p16 cyclin-dependent kinase inhibitor and p19 ARF was null in all of the lines with undetectable mRNA levels observed. Moreover, RAIN-32 treatment (24 hr) increased p53 protein levels in the MDM2 inhibitor-sensitive lines as well as PARP cleavage. Daily oral dosing with RAIN-32 at 50 mg/kg significantly reduced the growth of both MSTO211H and H226 flank xenografts. **Conclusion:** MDM2 inhibitors selectivity and potently inhibit in vitro and in vivo growth of MPM cell lines bearing WT *TP53*. In light of the fact that there are no approved therapies following MPM treatment failure with standard cytotoxic agents or anti-PD1-based immunotherapy, the MDM2/p53 axis represents an attractive target for further clinical exploration in this disease. **Keywords:** MDM2 inhibitor, TP53, Mesothelioma

FP07.02
Next Generation Sequencing Portrays Mutation Profilings of Malignant Pleural and Peritoneal Mesotheliomas

J. Zhao,[1] W. Gu,[2] X. Xia[2] *[1]Beijing Tsinghua Chang Gung Hospital, Beijing/CN, [2]Geneplus-Beijing Institute, Beijing/CN*

Introduction: Malignant mesothelioma (MM) is a rare form of cancer mainly affecting the pleural and peritoneal lining. The 5-year survival rate of advanced patients is less than 1% due to the lack of effective medical therapies. To investigate the possibility of targeted therapy for MM patients, a deeper understanding of their mutation profilings is